

A scenic photograph of a snowy mountain landscape. In the background, a large, rugged mountain peak is partially covered in snow. The middle ground is filled with a dense forest of evergreen trees. The foreground is a snowy field with a wooden signpost on the right side. The sky is blue with some light clouds.

Sources of Lead in Children's Lives

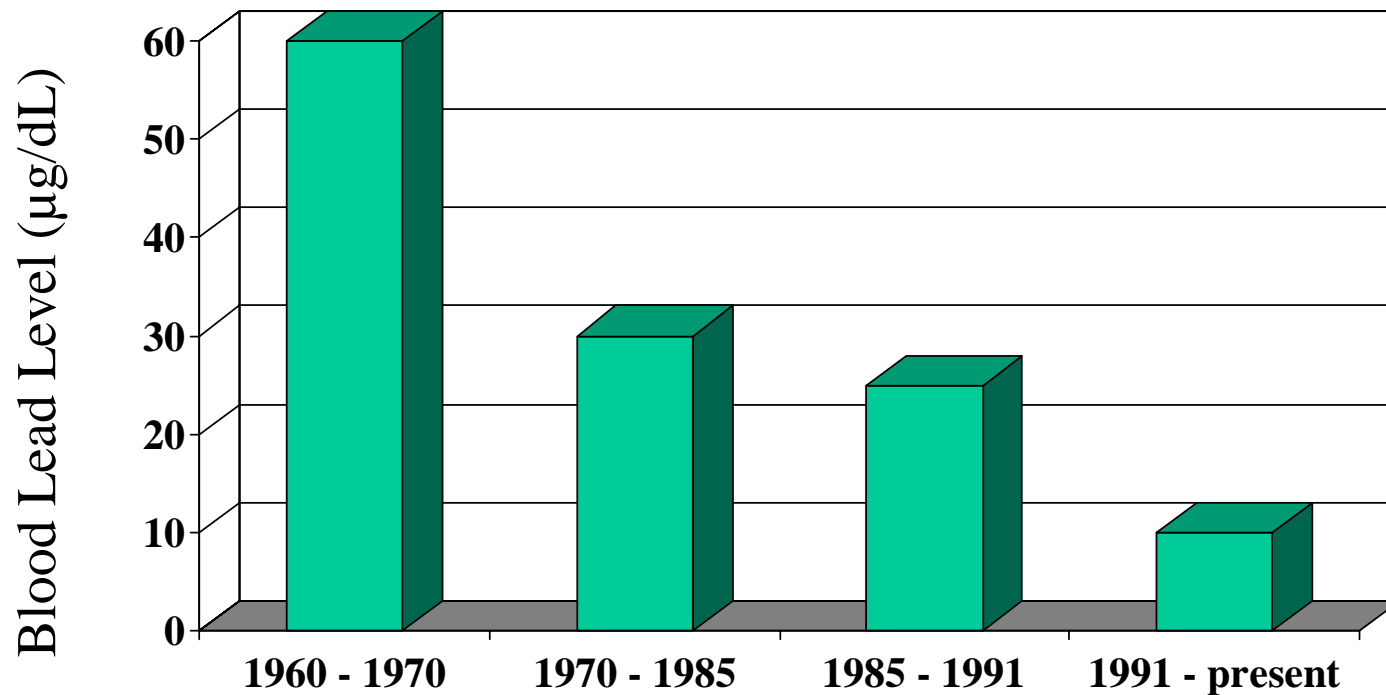
Common and not-so-common exposures

Mark E. Anderson MD FAAP

Rocky Mountain Region PEHSU

Second Annual Region VIII CEH Summit; October 8, 2004

Recommended Lead Action Levels, 1960 - present



What is known about lead and lead poisoning?

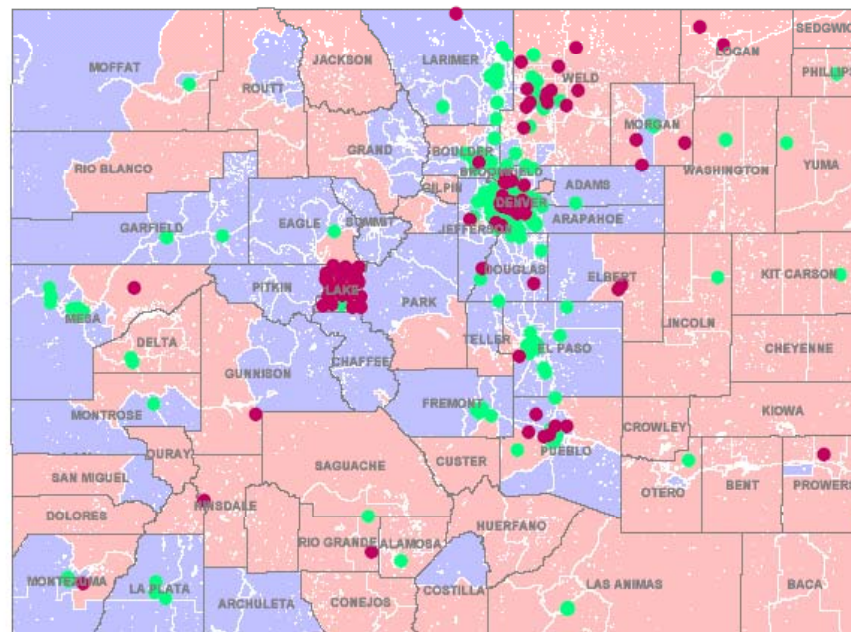
At low levels, lead poisoning in children causes:	At high levels, lead poisoning in children causes:	Effects of lead poisoning on children can be:
<p>Reduction in IQ and attention span</p> <p>Reading and learning disabilities</p> <p>Hyperactivity and behavioral problems</p> <p>Impaired growth</p> <p>Impaired visual, motor, hearing function</p>	<p>anemia</p> <p>Brain, liver, kidney, nerve damage</p> <p>coma</p> <p>convulsions</p> <p>death</p>	<p>Long-term and potentially irreversible</p> <p>Intensified with repeated exposure and accumulation in the body</p>



Lead Poisoning Data

ELEVATED BLOOD LEAD LEVEL CASES IN THE STATE OF COLORADO

January 1996 - June 2001

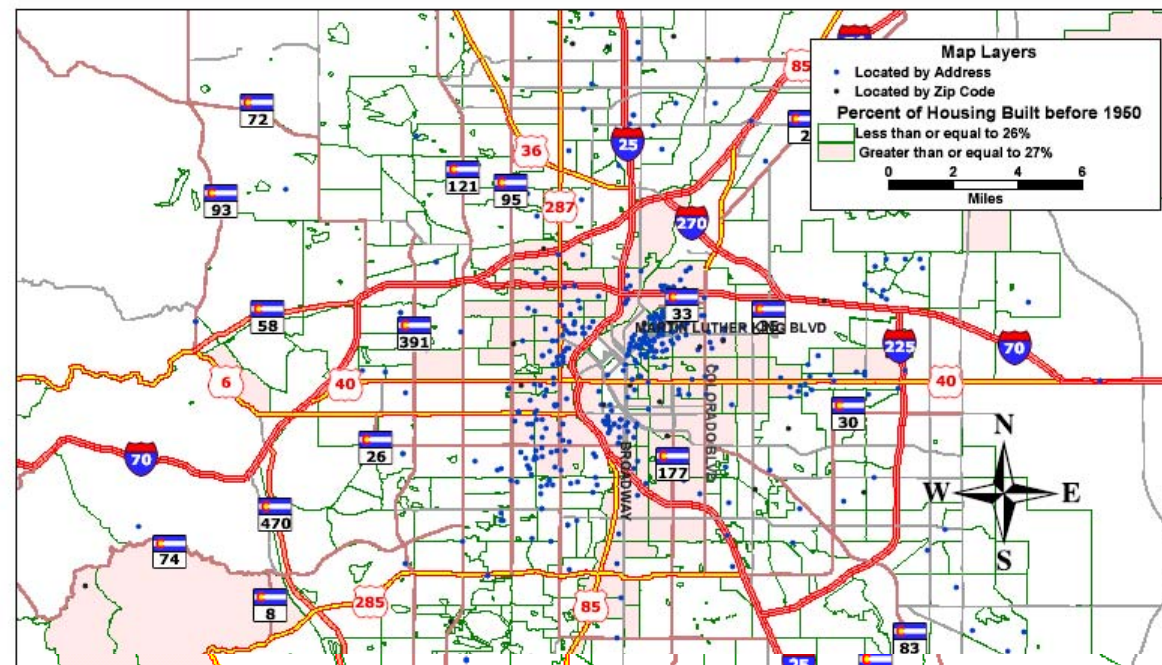


Lead Poisoning Prevention Program, Colorado Department of Public Health and Environment



Lead Poisoning Data

1996-2001 Elevated Lead Level Cases Denver Area Census Tracts



The only way to know if your child has high lead levels

Ask your doctor for a blood lead test



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SECOND OPINIONS

'Needless' lead testing

Mike Shannon's recommendations on universal lead testing (AAP News, June 2002) may be well-intentioned, but his science is even worse.

Universal testing might have been warranted in the 1970s, but today it is nothing short of child abuse.

The state of Alaska has tested more than 960 Medicaid kids and only one exceeded the cut-off level of 10 micrograms per deciliter — all the way up to 11! Our state of Washington has tested a random sample of more than 780 toddlers, and less than 1% had levels above 10 micrograms per deciliter. They, too, were barely elevated. Wyoming, Idaho, California, etc., have had comparable results.

While cigarette smoking is still so prevalent — while abuse of alcohol and other chemicals also remains popular — I'd urge we invest our limited resources on these types of real-world problems and stay away from having the feds continue to mandate that we all continue to search for "aliens from outer space" (Pb poisoning) where they simply don't exist.

Needlessly poking kids with needles is hardly an acceptable public posture for the Academy in the first place; put the onus of decision-making about whom to test back at the state level where it belongs.

William O. Robertson, M.D., FAAP
Washington Poison Center medical director
Seattle

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Lead Poisoning Outreach For Providers



**LEAD POISONING CAN
HURT YOUR CHILD
FOR LIFE**

**Have Your Children Tested
Have Your Home Inspected**

**CALL
303-692-3100**

Colorado Department of Public Health and Environment
Lead Poisoning Prevention Program
Lead Based Paint Program

Common Sources of Lead in a Child's Environment

- Paint and dust
- Soil
- Water
- Toys, vinyl miniblinds
- Pottery from foreign places



Other Sources of Lead

- Keys
- Pewter
- Home remedies
- Glaze on old bathtubs
- Soil contaminated from leaded gasoline



Children's rings



Brand Imports LLC of Scottsdale, Ariz., is recalling 1 million children's rings because they contain high levels of lead, posing a risk

of lead poisoning to children.

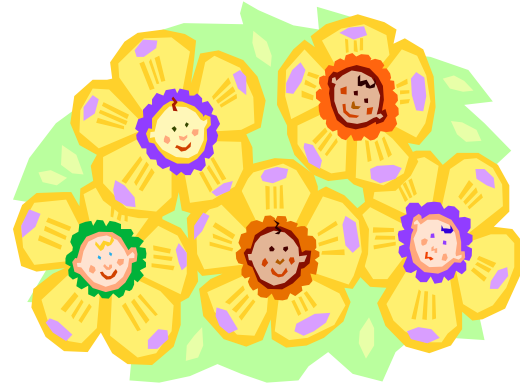
No incidents have been reported.

The rings are silver and come in various patterns including hearts and stars.

The rings were sold in vending machines in malls at discount department stores and at grocery stores nationwide between December 2002 and August 2003 for about 25 cents.

Consumers should throw the ring away or contact Brand Imports LLC at (800) 967-3048 for more information.

The Message--Lead



- An issue of regional importance
- Consistent message
- Research needed
- Screening homes, not children

lower level lead exposure...results

- For every 1 $\mu\text{g}/\text{dL}$ increase in blood lead:
 - 0.7-point decrement in mean arithmetic scores
 - 1-point decrement in mean reading scores
 - 0.1-point decrement in non-verbal reasoning
 - 0.5-point decrement in short-term memory scores
- An inverse relationship between blood lead concentration and arithmetic and reading scores

Lanphear, et al. *Public Health Reports* 2000 (115); 521-529.

lower level lead exposure...results

“Deficits in cognitive and academic skills associated with lead exposure occur at blood lead concentrations lower than 5 $\mu\text{g}/\text{dL}$ ”

Lanphear, et al. *Public Health Reports* 2000 (115); 521-529.

Lower lead levels...prospective

- Similar effect as in retrospective study
- Threshold effect
- Dose response relationship

Healthy Diets

Lead and a Healthy Diet

What You Can Do to Protect Your Child

Lead's Effects on the Body

Lead is a poisonous metal that our bodies cannot use. Lead poisoning can cause learning, hearing, and behavioral problems, and can harm your child's brain, kidneys, and other organs. Lead in the body stops good minerals such as iron and calcium from working right. Some of these effects may be permanent.



Lead Awareness and Your Child

Children with lead poisoning usually do not look or act sick. The only way to know if your child has lead poisoning is by getting a blood test.

Ask your doctor or health care provider to test your child under six years of age at least once a year.

Lead Hazards

Where is Lead Found?

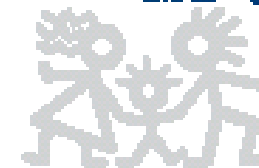
Main Sources of Lead

Lead-based paint is a hazard if it is peeling, chipping, chalking, or cracking. Even lead-based paint that appears to be undisturbed can be a problem if it is on surfaces that children chew or that get a lot of wear and tear. The older your home is, the more likely it is to contain lead-based paint.

Contaminated dust forms when lead paint is dry-scraped or sanded. Dust can also become contaminated when painted surfaces bump or rub together. Lead chips and dust can gather on surfaces and objects that people touch or that children put into their mouths.

Lead poisoning occurs **without any obvious symptoms**

and harms



your child's body.

Contaminated soil occurs when exterior lead-based paint from houses, buildings, or other structures flakes or peels and gets into the soil. Soil near roadways may also be contaminated from past use of leaded gasoline in cars. Avoid these areas when planting vegetable gardens.

Other Sources of Lead

Contaminated drinking water from older plumbing fixtures

Lead-based painted toys and household furniture

Imported lead-glazed pottery and leaded crystal

Lead smelters

Hobbies

Folk remedies like azarcon and pay-loo-ah

Cosmetics like kohl and kajal

Do not store food in glazed pottery from foreign countries.



Texas Lead

- Lead exposed infant
- Mother living with extended family
- Initial and follow-up questioning
- Outcome

Colorado Lead

- 3 month old with a seizure
- Work and social history
- 2,4, 6, 9 month well child checks
- Maternal blood lead level
- Most recent result

Lead Burden

- What regional issues exist?
- Should a new ‘threshold’ be established?
- Who is responsible?
 - Screening, follow up
- Education